

2010 Energy Audit -Facility Improvement Measures

Implementation Tracking Spreadsheet- As of April 2016

Energy savings and payback calculated by Siemens unless otherwise notes

- Green cell County has performed this upgrade
- Purple cell Upgrade work is ongoing
- Orange cell Work is planned/proposed
- Blue cell Other note- see bottom of sheet

Building	FIM #	Facility Improvement Measure	Status	Payback	Electric Savings (kWH/yr)	Natural Gas Savings (CCF/yr)	#2 Fuel Oil Savings (gallons/yr)	LPG Savings (gallons/yr)	Note
Carr									
	1	Replace Steam Boiler	Planned out of budget	93.9		1,910			
	2	DHW Heater Replacement		11.7		(215)			Replaced with small elec. Unit
	3	Weatherization Improvements		14.9	652	350			
	4	Lighting Upgrade	Interior LED fall 2015 Greenleaf	13.8	2,237				GL calculates 2278 kwh 2278
Community Corrections									
	5	Demand Control Ventilation		34.9	211			475	
	6	Modify Electric Heat Controls	Otherwise addressed	1.9	7,742				LP Rooftop units, new t-stats
	7	Weatherization Improvements		16.5	1,471			603	
	8	Lighting Upgrade		18	3,514				
Court House									
	9	Boiler Replacement		192		1,449			
	10	Cooling Tower VFD	Capital	14	13,735				Replaced several due to failure
	11	Heat Pump Replacement	Capital	92.8	56,041				
	12	Weatherization Improvements	Capital	25.3	2,639	2,638			
	13	Lighting Upgrade	Interior LED fall 2015 Greenleaf	11.1	19,222				GL savings estimates 54747 kwh 54747
		Exterior lighting	LEDs						Lime calcs 17,729kwh savings 17729
Emergency Management									
	14	Replace Liebert		95.6	2,381				
	15	Weatherization Improvements		7.2	1,238	80			
	16	Lighting Upgrade	Interior LED fall 2015 Greenleaf	8.8	992				GL savings estimate 11493kwh 11493
Flatbush Annex									
	17	Demand Control Ventilation	Building Surplused	13.7	27,710	564			
	18	Hot Water Reset Controls	Building Surplused	36.8		547			
	19	Boiler Replacement	Building Surplused	256.5		1,055			
	20	Cooling Tower Replacement	Building Surplused	218.5	2,664				
	21	Exhaust Fan Control Modification	Building Surplused	4		2,035			
	22	Pump Motor/VFD Replacement	Building Surplused	9.4	50,870				
	23	Weatherization Improvements	Building Surplused	14.4	1,046	744			
	24	Lighting Upgrade	Building Surplused	34.4	473				
Heavy Vehicle Maintenance									
	25	Infrared Heater	Otherwise completed/proposed	20.9	1,969	5,464			
	26	Weatherization Improvements		10		372			

Building	FIM #	Facility Improvement Measure	Status	Payback	Electric Savings (kWH/yr)	Natural Gas Savings (CCF/yr)	#2 Fuel Oil Savings (gallons/yr)	LPG Savings (gallons/yr)	Note	
	27	Lighting Upgrade	Completed/ongoing	14.1	41,717				GL: 30,105kwh savings	30105
		Exterior lighting	Completed 2014 Lime						Lime: 78,832kwh savings	78832
Information Services										
	28	AHU and DCV	Building Surplused	38.7	10,379	1,554				
	29	Weatherization Improvements	Building Surplused	11.7	1,402	664				
	30	Lighting Upgrade	Building Surplused	16.9	14,020					
Mental Health (now Health and Mental Health)										
	31	Demand Control Ventilation	Capital	39.5	14,628	863				
	32	Cooling Tower Replacement	Completed	91.8	14,208					
	33	Wind Turbine		62.1	33,875					
	34	Heat Pump Replacement	Otherwise addressed	99.4	48,157				Ongoing as units fail	
	35	Pump Motor/VFD Replacement	Capital	13.3	36,608					
	36	Weatherization Improvements		13.9	2,028	1,015				
	37	Lighting Upgrade	Interior LED fall 2015 Greenleaf	14.9	42,721				GL estimate 51,688kwh savings	51688
		Exterior lighting	Completed 2014 Lime						Lime: 10,365kwh savings	10365
Pool										
	38	Motor Replacement	Established Capital 414	15.3	3,378					
	39	Lighting Upgrade	Established Capital 414	12.3	2,357					
Probation Department										
	40	Demand Control Ventilation	Capital	75.3	465	848				
	41	Weatherization Improvements		41.3	2,139	1,040				
	42	Lighting Upgrade	Interior LED fall 2015 Greenleaf	23.8	4,555				GL estimate 13,898 kwh savings	13898
		Exterior lighting	Completed 2015 Lime						Lime: estimates 12,790kwh	12790
Public Works										
	43	Replace AC Unit and Install DCV	Capital	49.1	19,246	648			New direct digital controls	
	44	Cooling Tower Replacement	Completed	286.5	4,066				New direct digital controls	
	45	Pump Motor Replacement	Capital	12.1	1,665				New direct digital controls	
	46	Weatherization Improvements		11.7	824	690				
	47	Lighting Upgrade	Interior LED fall 2015 Greenleaf	12.7	15,510				GL 9,967kwh savings on main building	9967
		Exterior lighting	Completed 2014 Lime							
Old Jail Storage Garage										
	48	Replace Unit Heaters		6	68,084			(3,016)		
	49	Weatherization Improvements		7.5				130		
Trudy Resnick Farber										
	50	Boiler Replacement	Proposed Capital	32.8			1,345			
	51	Demand Control Ventilation	Proposed Capital	14.7	213		289			
	52	Lighting Upgrade	Interior LED fall 2015 Greenleaf	11	11,439				GL estimate 37,136kwh	37136
		Exterior lighting	Completed 2015 Lime						Lime: 8,750kwh savings	8750
Dept of Environment										
	53	Boiler Replacement		86.2		354				
	54	DHW Heater Replacement		50.3	2,565	(107)				

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	55	Weatherization Improvements		26.4	682	620			
	56	Lighting Upgrade	Interior LED fall 2015 Greenleaf	50.8	1,491				GL estimate 1,853 kwh 1853
Ulster County Office Building									
	57	Demand Control Ventilation	Capital	10.4	1,856	5,672			
	58	Replace Electric Heat in AC-4	Completed	29.5	63,240	(2,372)			
	59	Boiler Replacement	Capital	81.5		5,743			
	60	Humidification Replacement		54.8	51,006				
	61	Pump Motor/VFD Replacement	Capital	25.4	37,876				
	62	Weatherization Improvements		12.7	1,476	1,148			
	63	Lighting Upgrade	Interior LED fall 2015 Greenleaf	12.1	53,279				GL estimate 101,062kwh 101062
		Exterior lighting	Completed 2014 Lime						Lime: 16,570 kwh savings 16570
Records Storage									
	64	RTU and DCV	Capital	51.4	31,640	2,799			
	65	Humidification Replacement	Capital	16.9	113,359	(4,123)			
	66	Weatherization Improvements		19.3	2,288	1,048			
	67	Lighting Upgrade	Completed/proposed	19.9	42,021				GL estimate 15,675kwh 15675
		Exterior lighting	Completed 2014 Lime						ext wall packs ongoing,
Ulster County Area Transportation (UCAT)									
	68	Demand Control Ventilation		13.7	6,279				
	69	Weatherization Improvements		31.3	12,668				
	70	Lighting Upgrade	Completed GreenLeaf 2015	10.1	31,276				CL estimate 26,029 26029
	71	Remove Electric Heat		21.9	66,933	(2,456)			
		Exterior lighting	LEDs (completed 2010)						Wall packs ongoing
Ulster Avenue Office Complex (DSS, BRC)									
	72	Replace RTUs	Capital	94.8	51,552	791			4 new in 2016
	73	Weatherization Improvements		17.3	2,742	5,000			
	74	Lighting Upgrade		8.8	1,606	612			NOT reached as part of GL: BUT GL estimates 154,828kwh savings through 2665 fixtures
	75	Demand Control Ventilation		25.1	32,706				
		Exterior lighting	LED retrofit (Lime) 2014						Lime: 58,295kwh; wall packs ongoing, parking lot complete 58295
Accord Substation									
	76	Lighting Upgrade		20.4	858				
Boiceville Substation									
	77	Bay Area Thermostat Replacement	Completed	0.8				862	
	78	DHW Heater Replacement		22	2,565			(117)	
	79	Office Area Thermostat Replacement	Completed	2				345	
	80	Lighting Upgrade	Scheduled 2016	1.7	2,982				Exterior LEDs installed
Saugerties Substation									
	81	Infrared Heater	Otherwise addressed	14.9			2,383	(1,947)	

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	82	Office Area Thermostat Replacem	Completed	0.3			253			
Ulster County Law Enforcement Center										
	83	Lighting Sensor Upgrade	Capital 456	5.7	127,985					
	84	Building Scheduling		0	162,854		4,664			
		Interior lighting	Interior LED upgrade & office side of complex completed 2015; warehouse & rec yards completed 2016							GL estimate 276,829kwh
		Exterior lighting	parking lot LEDs 2014							Lime: 195,958kwh
GHHC										
	85	Hot Water Reset Controls		10.7						
	86	Kitchen Exhaust Hood Controls		35.3	17,463		409			
	87	Boiler Replacement- NG		30.1		(53,292)	459			
	88	Instantaneous DHW Heater		13.7		(17,382)	49,485			
	89	Pump Motor/VFD Replacement		6.7	43,564		16,495			
	90	Weatherization Improvements		11.4	150,111					
	91	Lighting Upgrade		11.4	76,281		5,027			
	92	PTAC Replacement		9.7	457,496					

FIM 6 Replaced electric heat at community corrections with LP

1,032,049
134,166.37

FIM 25 Infrared heaters in Heavy Vehicle Maintenance Area
Replacing/Replaced oil fired hot air furnaces with gas fired ceiling hung unit heater and/or "infloor" radiant heat.

FIM 34 Heat Pump Replacement at Mental Health
Both ongoing and included in 2015 capital program

FIM 72 RTU replacement at DSS/BRC (29 units total)
Work is ongoing and units are replaced as they fail and included in proposed 2015 capital project

FIM 81 Saugerties Substation- Infrared Heater
Installed gas fired furnace and ceiling hung unit heaters

Additional Energy Improvements

- Replaced electric hot water heater at Probation
- Replaced gas fired water heater at County Office Building
- Replaced exterior parking lot lighting (7 facilities) with LEDs, Fall 2014
- Replaced interior lights (13 buildings) with LEDs, Fall 2015